

What is claimed is:

1. A method of creating an image-based effect from a digital matte, comprising:

generating a digital matte from an image;

blurring the digital matte;

- 5       shaping the blurred matte using a predefined shaping transformation; and  
      using the shaped blurred matte to create the effect.

2. The method of claim 1, wherein:

blurring the digital matte comprises generating high-resolution values for the  
pixels of the blurred matte, high-resolution values being values having a fractional  
10       component;

shaping the blurred matte comprises transforming a region of interest of the  
matte pixels from original values to new values by:

forming a subpixel patch for each matte pixel to create subpixels for  
each matte pixel;

- 15       applying the shaping transformation to each of the subpixels created  
for each matte pixel; and

calculating a new value for each matte pixel in the region from the  
transformed values of the corresponding subpixels.

3. The method of claim 2, wherein:

- 20       using the matte comprises applying an image processing operating to the  
subpixels of the region after applying the shaping transformation and before  
calculating new values for matte pixels.

4. The method of claim 3, wherein:

the high-resolution values are an 8.8 result for each pixel of the blurred matte;

- 25       the subpixel patch a particular pixel is a 3x3 patch composed of bilinearly  
interpolated values calculated from values of pixels neighboring the particular pixel;  
and

the new values are calculated as an unweighted average of the values of the  
corresponding subpixels after the shaping transformation has been applied.

5. The method of claim 1, wherein:  
the predefined shaping transformation is implemented by a lookup table; and  
the act of shaping the blurred matte is performed by applying the lookup table  
to the blurred matte.

5 6. The method of claim 1, wherein:  
the predefined shaping transformation is defined by a user interacting with a  
graphical user interface to specify a curve defining the transformation.

7. The method of claim 1, wherein:  
the digital matte is small.

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8. A computer program product for creating an image-based effect from a digital matte,  
comprising instructions operable to cause a programmable processor to:

generate a digital matte from an image;

blur the digital matte;

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shape the blurred matte using a predefined shaping transformation; and  
use the shaped blurred matte to create the effect.

9. The computer program product of claim 8, wherein:  
the instructions to blur the digital matte comprise instructions to generate  
high-resolution values for the pixels of the blurred matte, high-resolution values being  
values having a fractional component;

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the instructions to shape the blurred matte comprise instructions to transform a  
region of interest of the matte pixels from original values to new values by:

forming a subpixel patch for each matte pixel to create subpixels for  
each matte pixel;

25

applying the shaping transformation to each of the subpixels created  
for each matte pixel; and

calculating a new value for each matte pixel in the region from the  
transformed values of the corresponding subpixels.

10. The computer program product of claim 9, wherein:  
the instructions to use the matte comprise instructions to apply an image processing operating to the subpixels of the region after applying the shaping transformation and before calculating new values for matte pixels.
- 5 11. The computer program product of claim 10, wherein:  
the high-resolution values are an 8.8 result for each pixel of the blurred matte;  
the subpixel patch a particular pixel is a 3x3 patch composed of bilinearly interpolated values calculated from values of pixels neighboring the particular pixel;  
and  
10 the new values are calculated as an unweighted average of the values of the corresponding subpixels after the shaping transformation has been applied.
12. The computer program product of claim 8, wherein:  
the predefined shaping transformation is implemented by a lookup table; and  
the act of shaping the blurred matte is performed by applying the lookup table  
15 to the blurred matte.
13. The computer program product of claim 8, wherein:  
the predefined shaping transformation is defined by a user interacting with a graphical user interface to specify a curve defining the transformation.
14. The computer program product of claim 8, wherein:  
20 the digital matte is small.